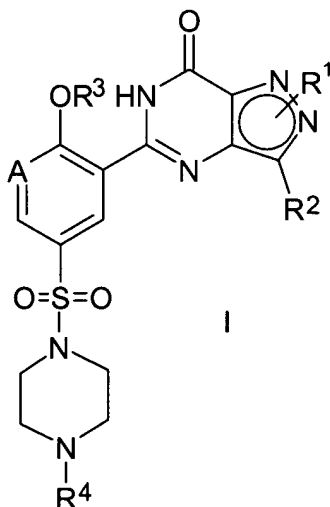


## IN THE CLAIMS

1-16 (Canceled)

17. (Currently amended) A process for the production of a compound of formula I:



wherein

A represents CH or N;

R¹ represents H, lower alkyl (which alkyl group is optionally interrupted by O), Het, alkylHet, aryl or alkylaryl, which latter five groups are all optionally substituted (and/or, in the case of lower alkyl, optionally terminated) by one or more substituents selected from halo, cyano, nitro, lower alkyl, OR⁵, C(O)R⁶, C(O)OR⁷, C(O)NR⁸R⁹, NR¹⁰R¹⁰ᵇ and SO₂NR¹¹ᵃR¹¹ᵇ;

R² and R⁴ independently represent lower alkyl;

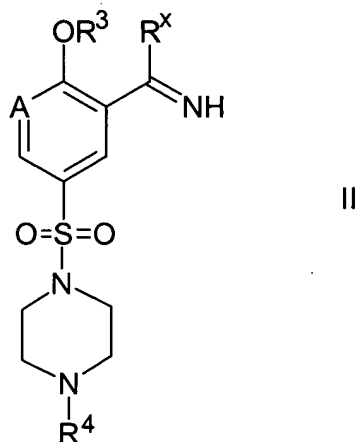
R³ represents lower alkyl, which alkyl group is optionally interrupted by oxygen;

Het represents an optionally substituted four- to twelve-membered heterocyclic group, which group contains one or more heteroatoms selected from nitrogen, oxygen and sulfur;

R⁵, R⁶, R⁷, R⁸, R⁹, R¹¹ᵃ and R¹¹ᵇ independently represent H or lower alkyl;

$R^{10a}$  and  $R^{10b}$  either independently represent, H or lower alkyl or, together with the nitrogen atom to which they are attached, represent azetidiny, pyrrolidinyl or piperidinyl,

which process comprises the reaction of a compound of formula II,



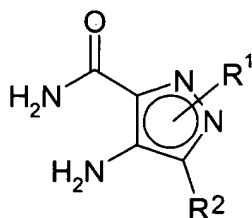
wherein

$R^x$  is a group, substitutable by an aminopyrazole, selected from:

- OR<sup>e</sup>, wherein R<sup>e</sup> independently represents the same groups as defined by R<sup>1</sup>;
- NH<sub>2</sub>;
- NHR<sup>a</sup>, wherein R<sup>a</sup> represents -OR<sup>1</sup> or halo;
- N(R<sup>b</sup>)R<sup>c</sup>, wherein R<sup>b</sup> and R<sup>c</sup> each independently represent the same groups as defined by R<sup>1</sup>;
- SH; and
- SR<sup>d</sup>; wherein R<sup>d</sup> independently represents the same groups as defined by R<sup>1</sup>;

and A, R<sup>3</sup> and R<sup>4</sup> are as defined above,

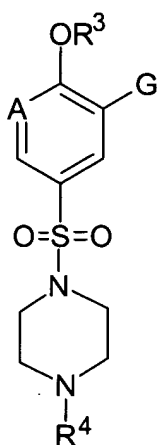
with a compound of formula III,



III

wherein  $R^1$  and  $R^2$  are as defined above

and wherein the compound of formula II is prepared by way of reaction of a compound of formula IV,



IV

wherein G represents a carboxylic acid group ( $-C(O)OH$ ),  $CO_2Et$ ,  $-CN$ ,  $-C(OR^e)_3$ ,  $-C(O)NH_2$ ,  $-C(=NOR^f)N(R^e)_2$ , wherein  $R^f$  represents H or lower alkyl and  $R^e$  is as hereinbefore defined, 5- or 6-membered heterocyclic group containing at least two heteroatoms selected from O, S, N and mixtures thereof wherein the heterocyclic group is bonded by a carbon atom or a derivative thereof, with an appropriate reagent for converting wherein the group G is converted to a  $-C(R^x)=NH$  group.

18. (Previously presented) A process as claimed in Claim 17, wherein, in the compound of formula IV, the group G represents  $-CN$ ,  $-C(OR^e)_3$ ,  $-C(O)NH_2$  or  $-C(=NOR^f)NR_2$ , wherein  $R^f$  represents H or lower alkyl and  $R^e$  is lower alkyl (which alkyl group is optionally interrupted by O), Het, alkylHet, aryl or alkylaryl, which latter five groups are all optionally substituted (and/or, in the case of lower alkyl, optionally terminated) by one or more substituents selected from halo, cyano, nitro, lower alkyl,  $OR^5$ ,  $C(O)R^6$ ,  $C(O)OR^7$ ,  $C(O)NR^8R^9$ ,  $NR^{10a}R^{10b}$  and  $SO_2NR^{11a}R^{11b}$ .

19. (Previously presented) A process as claimed in Claim 18, wherein, when  $R^x$  represents  $-OR^e$  (wherein  $R^e$  represents lower alkyl (optionally interrupted by O), alkylHet or alkylaryl):

- (a) a corresponding compound of formula IV in which G represents  $-CN$  is reacted with an alcohol of formula VA,



wherein  $R^\alpha$  represents lower alkyl (optionally interrupted by O), alkylHet or alkylaryl, and Het is as defined in Claim 17 in the presence of a protic acid;

- (b) a corresponding compound of formula IV in which G represents  $-C(O)NH_2$  is reacted with an appropriate alkylating agent of formula VB,



wherein  $Z^1$  represents a leaving group and  $R^\alpha$  is as defined above; or

- (c) a corresponding compound of formula IV in which G represents  $-C(OR^\alpha)_3$ , wherein  $R^\alpha$  is as defined above, is reacted with ammonia, or an *N*-protected derivative thereof.

20. (Previously presented) A process as claimed in Claim 18, wherein, when  $R^x$  represents  $-OR^e$  (wherein  $R^e$  represents Het or aryl), a corresponding compound of formula IV in which G represents  $-CN$  is reacted with a compound of formula VC,



wherein  $R^B$  represents Het or aryl, and Het is as defined in Claim 17.

21. (original) A process as claimed in Claim 18, wherein, when  $R^x$  represents  $-NH_2$ :

- (a) a corresponding compound of formula IV in which G represents  $-CN$  is reacted with hydrazine, hydroxylamine or *O*-lower alkyl hydroxylamine, followed by reduction of the resultant intermediate under standard conditions; or
- (b) a corresponding compound of formula IV in which G represents  $-C(=NOR^f)NR_2$ , wherein  $R^f$  is as defined in Claim 18, is reduced under standard conditions.

22. (Previously presented) A process as claimed in Claim 18, wherein, when  $R^x$  represents  $-NH_2$ ,  $-NHR^a$  or  $-N(R^b)R^c$ , a corresponding compound of formula IV in which G represents  $-CN$  is reacted with a compound of formula VD,



wherein  $R^x$  and  $R^\delta$  independently represent H or  $R^a$ , and  $R^a$  is lower alkyl (which alkyl group is optionally interrupted by O), Het, alkylHet, aryl or alkylaryl, which latter five groups are all optionally substituted (and/or, in the case of lower alkyl, optionally terminated) by one or more substituents selected from halo, cyano, nitro, lower alkyl,  $OR^5$ ,  $C(O)R^6$ ,  $C(O)OR^7$ ,  $C(O)NR^8R^9$ ,  $NR^{10a}R^{10b}$  and  $SO_2NR^{11a}R^{11b}$ .

23. (original) A process as claimed in Claim 18, wherein, when  $R^x$  represents  $-SH$ :

- (a) a corresponding compound of formula IV in which G represents  $-CN$  is reacted with hydrogen sulfide; or
- (b) a corresponding compound of formula IV in which G represents  $-C(O)NH_2$  is reacted with a reagent that effects oxygen-sulfur exchange.

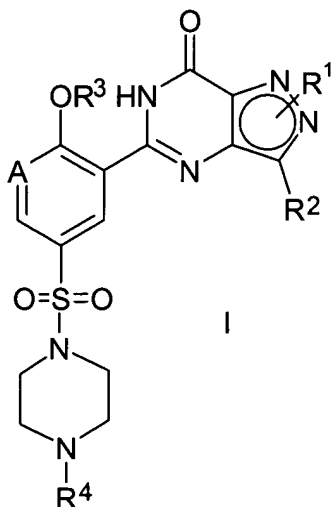
24. (Previously presented) A process as claimed in Claim 18, wherein, when  $R^x$  represents  $-SR^d$ , a corresponding compound of formula IV in which G represents  $-CN$  is reacted with a compound of formula VE,



wherein  $R^d$  is lower alkyl (which alkyl group is optionally interrupted by O), Het, alkylHet, aryl or alkylaryl, which latter five groups are all optionally substituted (and/or, in the case of lower alkyl, optionally terminated) by one or more substituents selected from halo, cyano, nitro, lower alkyl,  $OR^5$ ,  $C(O)R^6$ ,  $C(O)OR^7$ ,  $C(O)NR^8R^9$ ,  $NR^{10a}R^{10b}$  and  $SO_2NR^{11a}R^{11b}$ .

25. (original) A process as claimed in Claim 18, wherein, when  $R^x$  represents halo, a corresponding compound of formula IV in which G represents  $-C(O)NH_2$  is reacted with a halogenating agent.

26. (Currently amended) A process for the production of a compound of formula I:



wherein

A represents CH or N;

R¹ represents H, lower alkyl (which alkyl group is optionally interrupted by O), Het, alkylHet, aryl or alkylaryl, which latter five groups are all optionally substituted (and/or, in the case of lower alkyl, optionally terminated) by one or more substituents selected from halo, cyano, nitro, lower alkyl, OR⁵, C(O)R⁶, C(O)OR⁷, C(O)NR⁸R⁹, NR¹⁰aR¹⁰b and SO₂NR¹¹aR¹¹b;

R² and R⁴ independently represent lower alkyl;

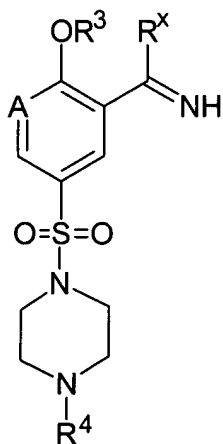
R³ represents lower alkyl, which alkyl group is optionally interrupted by oxygen;

Het represents an optionally substituted four- to twelve-membered heterocyclic group, which group contains one or more heteroatoms selected from nitrogen, oxygen and sulfur;

R⁵, R⁶, R⁷, R⁸, R⁹, R¹¹a and R¹¹b independently represent H or lower alkyl;

R¹⁰a and R¹⁰b either independently represent, H or lower alkyl or, together with the nitrogen atom to which they are attached, represent azetidiny, pyrrolidinyl or piperidinyl,

which process comprises the reaction of a compound of formula II,



II

wherein  $R^x$  is a group, substitutable by an aminopyrazole, selected from:

- $OR^e$ , wherein  $R^e$  independently represents the same groups as defined by  $R^1$ ;

- $NH_2$ ;

- $NHR^a$ , wherein  $R^a$  represents  $-OR^1$  or halo;

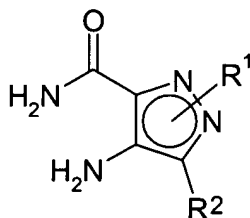
- $N(R^b)R^c$ , wherein  $R^b$  and  $R^c$  each independently represent the same groups as defined by  $R^1$ ;

- $SH$ ; and

- $SR^d$ ; wherein  $R^d$  independently represents the same groups as defined by  $R^1$ ;

and  $A$ ,  $R^3$  and  $R^4$  are as defined above,

with a compound of formula III,



III

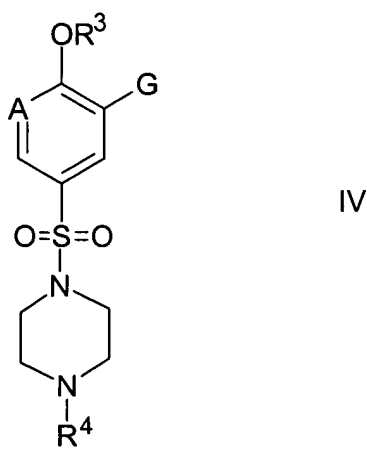
wherein  $R^1$  and  $R^2$  are as defined above

and wherein the compound of formula II is prepared by way of reaction of another compound of formula II such that ~~with a reagent that will convert~~ one  $R^x$  group is converted to another.

27. (Currently amended) A process as claimed in Claim 26, wherein, when  $R^x$  represents  $-OR^e$  (wherein  $R^e$  represents lower alkyl, alkylHet or alkylaryl), a corresponding compound of formula II in which  $R^x$  represents Cl is reacted with a compound of formula VA,  $R^\alpha OH$  wherein  $R^\alpha$  represents lower alkyl (optionally interrupted by O), alkylHet or alkylaryl, and Het is an optionally substituted four- to twelve-membered heterocyclic group, which group contains one or more heteroatoms selected from nitrogen, oxygen and sulfur.

28. (Previously presented) A process as claimed in Claim 26, wherein, when  $R^x$  represents  $-NH_2$ ,  $-NHR^a$  or  $-N(R^b)R^c$ , a corresponding compound of formula II in which  $R^x$  represents Cl,  $-SH$ ,  $-SR^d$  or  $-OR^e$ , wherein  $R^d$  and  $R^e$  are lower alkyl (which alkyl group is optionally interrupted by O), Het, alkylHet, aryl or alkylaryl, which latter five groups are all optionally substituted (and/or, in the case of lower alkyl, optionally terminated) by one or more substituents selected from halo, cyano, nitro, lower alkyl,  $OR^5$ ,  $C(O)R^6$ ,  $C(O)OR^7$ ,  $C(O)NR^8R^9$ ,  $NR^{10a}R^{10b}$  and  $SO_2NR^{11a}R^{11b}$ , is reacted with an appropriate compound of formula VD,  $HN(R^x)(R^\delta)$ , or an acid addition salt thereof.

29. (Currently amended) A process as claimed in Claim 26, wherein, when  $R^x$  represents  $-SR^d$ , a corresponding compound of formula IV<sub>1</sub>



wherein G represents a carboxylic acid group ( $-C(O)OH$ ),  $CO_2Et$ ,  $-CN$ ,  $-C(OR^e)_3$ ,  $-C(O)NH_2$ ,



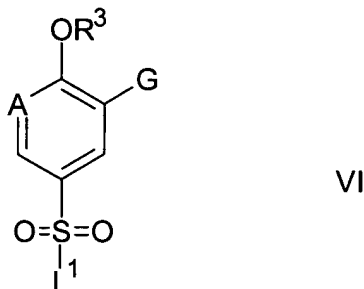
-C(=NOR<sup>f</sup>)N(R<sup>e</sup>)<sub>2</sub>, wherein R<sup>f</sup> represents H or lower alkyl and R<sup>e</sup> is as hereinbefore defined, 5- or 6-membered heterocyclic group containing at least two heteroatoms selected from O, S, N and mixtures thereof wherein the heterocyclic group is bonded by a carbon atom;

in which R<sup>x</sup> represents -SH is reacted with a compound of formula VF,

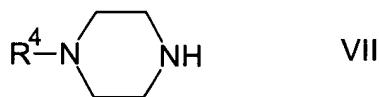


wherein Z<sup>2</sup> represents a leaving group and R<sup>d</sup> is lower alkyl (which alkyl group is optionally interrupted by O), Het, alkylHet, aryl or alkylaryl, which latter five groups are all optionally substituted (and/or, in the case of lower alkyl, optionally terminated) by one or more substituents selected from halo, cyano, nitro, lower alkyl, OR<sup>5</sup>, C(O)R<sup>6</sup>, C(O)OR<sup>7</sup>, C(O)NR<sup>8</sup>R<sup>9</sup>, NR<sup>10a</sup>R<sup>10b</sup> and SO<sub>2</sub>NR<sup>11a</sup>R<sup>11b</sup>.

30. (Previously presented) A process as claimed in Claim 17, wherein the compound of formula IV is prepared by reaction of a compound of formula VI,

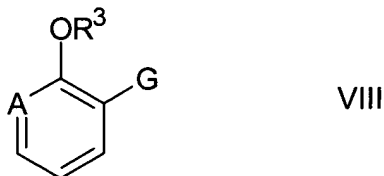


wherein L<sup>1</sup> is a leaving group and A, G and R<sup>3</sup> are as defined in Claim 17, with a compound of formula VII,



wherein R<sup>4</sup> is as defined in Claim 17.

31. (Currently amended) A process as claimed in Claim 30, wherein the compound of formula VI is prepared by reaction of a compound of formula VIII,



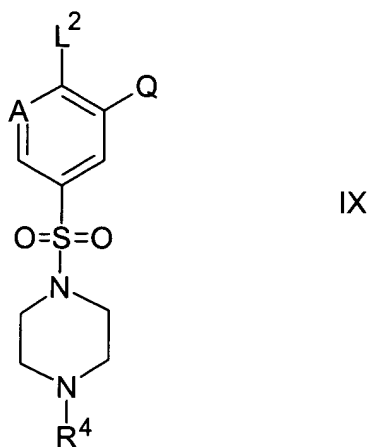
wherein

A represents CH or N,

G represents a carboxylic acid group (-C(O)OH) or a derivative thereof, and

R<sup>3</sup> represents lower alkyl, which alkyl group is optionally interrupted by oxygen, ~~with a reagent that may be used for the introduction of~~ such that a -SO<sub>2</sub>L<sup>1</sup> group is introduced into an aromatic or heteroaromatic ring system.

32. (Previously presented) A process as claimed in Claim 17, wherein the compound of formula IV is one in which G represents -CN or -C(O)NH<sub>2</sub>, and is prepared by reaction of a compound of formula IX,

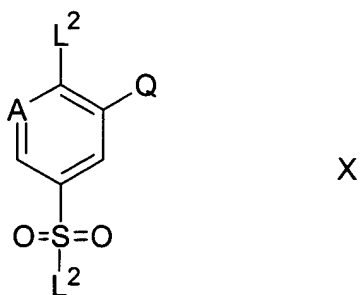


wherein Q represents -CN or -C(O)NH<sub>2</sub> and L<sup>2</sup> represents a leaving group, with a compound that will provide the group R<sup>3</sup>O.

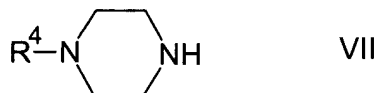
33. (original) A process as claimed in Claim 32, wherein the compound that will provide the group R<sup>3</sup>O is a lower alkyl alcohol.

34. (Previously presented) A process as claimed in Claim 32, wherein the leaving group L<sup>2</sup> is chloro.

35. (previously presented) A process as claimed in Claim 32, wherein the compound of formula IX is prepared by reaction of a compound of formula X,



with a compound of formula VII

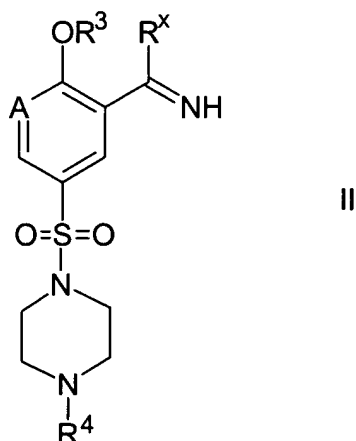


wherein R<sup>4</sup> is lower alkyl.

36. (Previously presented) A process as claimed in Claim 17, wherein the compound of formula IV is one in which G represents -CN, and is prepared by dehydration of a corresponding compound of formula IV in which G represents -C(O)NH<sub>2</sub>.

37. (Previously presented) A process as claimed in Claim 17, wherein the compound of formula IV in which G represents -C(O)NH<sub>2</sub> is prepared from a corresponding compound of formula IV in which G represents -C(O)OH by reaction with ammonia or a derivative thereof.

38. (Previously presented) A compound of formula II,



wherein

R<sup>x</sup> is a group substitutable by an aminopyrazole,

A is CH or N;

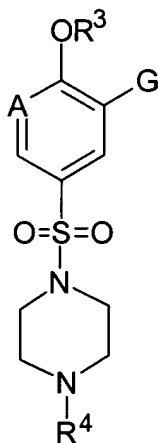
$R^3$  represents lower alkyl, which alkyl group is optionally interrupted by oxygen; and

$R^4$  represents lower alkyl.

39. (original) A compound according to Claim 38 wherein A represents –CH,  $R^3$  represents Et,  $R^4$  represents Me and  $R^x$  represents  $NH_2$ .

40. (original) A compound according to Claim 38 wherein A represents –CH,  $R^3$  represents Et,  $R^4$  represents Et and  $R^x$  represents  $NH_2$ .

41. (Currently amended) A compound of formula IV,



IV

wherein

G represents a carboxylic acid group ( $-C(O)OH$ ) or a derivative selected from -CN,  $CO_2Et$ ,  $-C(OR^e)_3$ ,  $-C(O)NH_2$  or  $-C(=NOR^f)N(R^e)_2$  wherein  $R^f$  represents H or lower alkyl and  $R^e$  is as defined in Claim 17,

A represents CH or N;

$R^4$  represents lower alkyl, with the proviso that when A is CH, G is ( $-C(O)OH$ ) and  $R^3$  is ethyl,  $R^4$  cannot be methyl;

$R^3$  represents lower alkyl, which alkyl group is optionally interrupted by oxygen, ~~with the proviso that when A is N, G is ( $-C(O)OH$ ) and  $R^4$  is ethyl,  $R^3$  cannot be ethylethoxy.~~

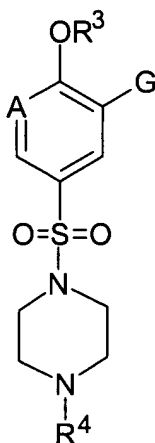
42. (Cancel)

43. (Cancelled)

44. (Previously presented) A compound according to Claim 41 wherein A represents -CH,  $R^3$  represents Et,  $R^4$  represents Et and G represents CN.

45. (Previously presented) A compound according to Claim 41 wherein A represents -CH, R<sup>3</sup> represents Et, R<sup>4</sup> represents Me and G represents CN.

46. (New) A compound of formula IV,



IV

wherein

G represents a carboxylic acid group derivative selected from -CN, CO<sub>2</sub>Et, -C(OR<sup>e</sup>)<sub>3</sub>, -C(O)NH<sub>2</sub> or -C(=NOR<sup>f</sup>)N(R<sup>e</sup>)<sub>2</sub> wherein R<sup>f</sup> represents H or lower alkyl and R<sup>e</sup> represents H, lower alkyl (which alkyl group is optionally interrupted by O), Het, alkylHet, aryl or alkylaryl, which latter five groups are all optionally substituted (and/or, in the case of lower alkyl, optionally terminated) by one or more substituents selected from halo, cyano, nitro, lower alkyl, OR<sup>5</sup>, C(O)R<sup>6</sup>, C(O)OR<sup>7</sup>, C(O)NR<sup>8</sup>R<sup>9</sup>, NR<sup>10a</sup>R<sup>10b</sup> and SO<sub>2</sub>NR<sup>11a</sup>R<sup>11b</sup>;

A represents N;

R<sup>4</sup> represents lower alkyl;

R<sup>3</sup> represents lower alkyl, which alkyl group is optionally interrupted by oxygen.